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REMARKS

In the non-final Office Action, the Examiner noted that claims 1, 2, 6-10, 13-16, 18, and 28-34 stand rejected. By this response, claims 1 and 9 have been amended, and claims 35 and 36 have been added. The amendments to the claims and the new claim are fully supported by the Specification.

It is to be understood that Applicants, by amending the claims, do not acquiesce to the Examiner's characterizations of the art of record or to Applicants' subject matter recited in the pending claims. Further, Applicants are not acquiescing to the Examiner's statements as to the applicability of the prior art of record to the pending claims by filing the instant responsive amendments.

In view of the following discussion, Applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. §103. Thus, Applicants believe that all of these claims are now in allowable form.

Amendments to the Claims, and the New Claims

By this response, claims 1 and 9 have been amended, and claims 35 and 36 have been added. The amendments to the claims, and the new claims, are fully supported by the Specification. For example, the amendments and the new claims are supported at least by page 4, lines 1-12 of the Specification.

REJECTIONS

35 U.S.C. §103

Claims 1, 2, 6-10, 13, 14, 28, 29 and 31

The Examiner has rejected claims 1, 2, 6-10, 13, 14, 28, 29 and 31 under 35 U.S.C. §103(a) as being unpatentable over Asamizuya et al. (U.S. Patent No. 6,314,576 hereinafter "Asamizuya") in view of Liu et al. (U.S. Patent No. 5,970,233, hereinafter "Liu"), PCT WO 96/13121 to McLaren (hereinafter "McLaren"), Aristides et al. (U.S. Patent 5,657,072, hereinafter Aristides) and Safadi (U.S. Patent 5,892,910, hereinafter "Safadi"). Applicants respectfully traverse the rejection.

Applicants' claim 1 recites (emphasis added below):

"1. Apparatus for providing demand television comprising:

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a broadcast encoder for receiving and encoding a real-time video frame sequence to form a broadcast bitstream; and

a storage encoder for receiving and encoding the real-time video frame sequence to form a plurality of storage bitstreams, wherein said storage encoder comprises:

a first encoder for producing a play bitstream that contains information that, when decoded, produces a forward play video frame sequence, said first encoder receiving and encoding the real-time video frame sequence contemporaneously with said broadcast encoder receiving and encoding said real-time video frame sequence;

a frame subsampler for receiving and subsampling the real-time video frame sequence contemporaneously with said broadcast encoder and first encoder receiving and encoding said real-time video frame sequence;

a buffer, for storing subsampled frames of the real-time video frame sequence;

a second encoder for producing, contemporaneously with said broadcast encoder receiving and encoding said real-time video frame sequence, both (i) a fast forward bitstream that contains information that, when decoded, produces a fast-forward video frame sequence, and (ii) a fast-reverse bitstream that contains information that, when decoded, produces a fast-reverse video frame sequence; and

a controller that selects subsampled frames from the buffer and couples selected frames to the second encoder in such a manner that said producing of said fast forward bitstream and said fast reverse bitstream is multiplexed over time."

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). The Asamizuya, Liu, McLaren, Aristides and Safadi references, alone or in combination, fail to teach or suggest all of the limitations recited in claim 1, and thus fail to teach the Applicants' invention as a whole.

Specifically, the cited references fail to teach or suggest at least the "second encoder for producing, contemporaneously with said broadcast encoder receiving and encoding said real-time video frame sequence, both (i) a fast forward bitstream that contains information that, when decoded, produces a fast-forward video frame sequence, and (ii) a fast-reverse bitstream that contains information that, when decoded, produces a fast-reverse video frame sequence" and the controller which

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"couples selected frames to the second encoder in such a manner that said producing of said fast forward bitstream and said fast reverse bitstream is multiplexed over time".

In particular, the Asamizuya reference discloses that a near video-on-demand (NVOD) compilation unit edits and compresses film stock such as video film or video stock recorded on video tape, stores them for a long period, and transmits required video information to the near video-on-demand playout unit in accordance with the broadcast.

The Liu reference discloses that during encoding, host processor 116 reads the captured bitmaps from memory device 112 via high-speed memory interface 110 and generates an encoded video bitstream that represents the captured video data. Host processor 116 may copy the encoded video bitstream to mass storage device 120 for future playback and/or transmit the encoded video bitstream to transmitter 118 for real-time transmission to a remote receiver.

The Safadi reference discloses an adaptive protocol CATV communication system, and the Aristides reference discloses an interactive entertainment network system.

However, as the Examiner acknowledges, "Asamizuya, Liu, Safadi, and Aristides are silent on the specifics of the encoders, specifically they are silent on a first encoder to produce a play bitstream to produce a forward play sequence, a frame subsampler, a buffer for storing sub-sampled frames, a second encoder for fast-forward, a third encoder for fast-rewind, and a controller that selects sub-sampled frames from the buffer and couples to the second and third encoders" (page 4 of the 6/2/05 Office Action).

The Examiner then relies on the McLaren reference to teach "the specifics of the encoders." The McLaren reference teaches a first encoder for encoding original HDTV video information, and a plurality of secondary encoders for respectively encoding subsampled video signals at various rates (see, McLaren, FIG. 4). Specifically regarding MPEG encoders, McLaren discloses (emphasis added below):

"Since the MPEG compatible encoding is the same for each speed, and because in a pre-recording environment real-time processing is not necessary, the same MPEG encoding hardware may be used to encode the normal-play stream and each trick-play stream. This commonality of

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usage is indicated by the broken line enclosing the MPEG encoder blocks 100, 120, 130, and 140." (column 15, lines 30-36)

Thus, McLaren discloses that "real-time processing is not necessary" and therefore does not teach a single "second encoder for producing, contemporaneously with said broadcast encoder receiving and encoding said real-time video frame sequence, both (i) a fast forward bitstream ... and (ii) a fast-reverse bitstream" as recited in the claim. The only configuration discussed in McLaren in which multiple trick play streams are produced contemporaneously is the configuration having multiple MPEG encoders, each producing a single trick-play stream. Moreover, as disclosed in the above-recited portion of McLaren, the configuration in which the same MPEG encoding hardware is used to produce multiple streams does not perform real-time processing, and thus cannot produce "contemporaneously with said broadcast encoder receiving and encoding said real-time video frame sequence, both (i) a fast forward bitstream ... and (ii) a fast-reverse bitstream" as recited in the claim.

Furthermore, none of the Asamizuya, Liu, McLaren, Aristides and Safadi references, alone or in combination, teach or suggest the controller which "couples selected frames to the second encoder in such a manner that said producing of said fast forward bitstream and said fast reverse bitstream is multiplexed over time" as recited in the claim.

As such, Applicants submit that independent claim 1 is patentable under 35 U.S.C. §103 over the Asamizuya, Liu, McLaren, Aristides and Safadi references. Moreover, independent claim 9 contains substantially similar relevant limitations as discussed above in regards to claim 1, and is therefore also patentable under 35 U.S.C. §103. Furthermore, claims 2, 6-8, 10, 13, 14 and 28-33 depend, directly or indirectly, from independent claims 1 and 9 and recite additional features thereof. As such, and at least for the same reasons as discussed above, Applicants submit that these dependent claims are also patentable under 35 U.S.C. §103. Therefore, Applicants respectfully request that the rejections be withdrawn.

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Claims 16 and 32

The Examiner has rejected claims 16 and 32 under 35 U.S.C. §103(a) as being unpatentable over Asamizuya, Liu, McLaren, Aristides and Safadi in view of Lee (U.S. patent 5,771,335, hereinafter "Lee"). Applicants respectfully traverse the rejection.

Independent claim 9 is patentable at least for the reasons discussed above. Claims 16 and 32 depend from independent claim 9 and recite additional features thereof. As such, Applicants submit that claims 16 and 32 are also patentable under 35 U.S.C. §103.

Claims 18, 30, 33 and 34

The Examiner has rejected claims 18, 30, 33, and 34 under 35 U.S.C. §103(a) as being unpatentable over Asamizuya in view of Liu, McLaren, Aristides and Safadi in view Russo (U.S. Patent 5,701,383, hereinafter "Russo"). Applicants respectfully traverse the rejection.

Independent claims 1 and 9 are patentable at least for the reasons discussed above. Claims 18, 30, 33 and 34 depend, directly or indirectly, from independent claims 1 and 9 and recite additional features thereof. As such, Applicants submit that claims 18, 30, 33 and 34 are also patentable under 35 U.S.C. §103.

NEW CLAIMS

New claims 35 and 36 are patentable at least because they depend from independent claims 1 and 9, respectively, which are patentable for at least the reasons given above.

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CONCLUSION

Applicants believe that all of the claims presently in the application are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall, Esq. or Stephen Guzzi at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,



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